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Defining Cutting Edge Scholarship: Feminism and Criteria of Rationality

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DEFINING CUTTING EDGE SCHOLARSHIP: FEMINISM AND CRITERIA OF RATIONALITY

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All too often, attempts to define or evaluate good scholarship tend toward the development of criteria of meritocracy that reinforce existing hierarchies. Some of the efforts to identify quality scholarship are quantitative. They may involve cataloguing the top articles in terms of popularity as measured by overall citation rates,[1] ranking law reviews by citation counts,[2] or classifying articles on a "greatest hits" list.[3] Or they may be tabulations toward a different purpose: counting citations to construct a list of articles most-often-cited in fancy publications to create a hierarchical ordering of faculty productivity.[4]

Other efforts to describe quality scholarship involve the construction of criteria of merit, often for purposes of pronouncing what sorts of scholarship qualify for tenure, and sometimes for disqualifying certain types of scholarship—particularly nontraditional ideas and forms of writing—as worthy.[5] The concern, in short, has been too much with the mechanics, numbers, and creditworthiness of scholarship and too little with its foundational qualities.

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1. *See, e.g.*, Fred R. Shapiro, *The Most-Cited Law Review Articles Revisited*, 71 CHI.-KENT L. REV. 751 (1996) [hereinafter Shapiro, *Articles Revisited*]; Fred R. Shapiro, *The Most-Cited Articles from* The Yale Law Journal, 100 YALE L.J. 1449 (1991); Fred R. Shapiro, *The Most-Cited Law Review Articles*, 73 CAL. L. REV. 1540 (1985).

2. *See* Olavi Maru, *Measuring the Impact of Legal Periodicals*, 1976 AM. B. FOUND. RES. J. 227, 234-40.

3. *See, e.g.*, GREAT AMERICAN LAW REVIEWS (Robert C. Berring ed., 1984).

4. *See, e.g.*, Colleen M. Cullen & S. Randall Kalberg, *Chicago-Kent Law Review Faculty Scholarship Survey*, 70 CHI.-KENT L. REV. 1445 (1995); Ira M. Ellman, *A Comparison of Law Faculty Production in Leading Law Reviews*, 33 J. LEGAL EDUC. 681 (1983); Michael I. Swygert & Nathaniel E. Gozansky, *Senior Law Faculty Publication Study: Comparisons of Law School Productivity*, 35 J. LEGAL EDUC. 373 (1985).

5. *See, e.g.*, Daniel A. Farber & Suzanna Sherry, *Telling Stories Out of School: An Essay on Legal Narratives*, 45 STAN. L. REV. 807 (1993). *See also* Arthur Austin, *The Reliability of Citation Counts in Judgments on Promotion, Tenure, and Status*, 35 ARIZ. L. REV. 829 (1993); Richard Delgado, *The Imperial Scholar: Reflections on a Review of Civil Rights Literature*, 132 U. PA. L. REV. 561 (1984) [hereinafter Delgado, *The Imperial Scholar*].

In this essay, I explore some defining characteristic traits or properties of jurisprudential scholarship that has been pathbreaking. The purpose of the exploration is to elucidate what ways of thinking and writing are cutting edge—what puts a topic on the edge, so to speak. Drawing significantly on modern critical theories, particularly feminist legal theory, and on historically developing criteria of rationality, I sketch the features that characterize promising work in legal theory.

I suggest that conventional criteria of theory-acceptance misguidedly center on measures of popularity. This essay proposes that theory-acceptance in law be evaluated instead by the criteria of rationality, which include criteria of the scientific method and theory development. The argument is that good scholarship may or may not be popular, but it will be theoretically sound. The essay then looks through the lens of these criteria at feminist legal scholarship, demonstrating how much of feminist legal theory, in comporting with these criteria, has been at the cutting edge of theoretically solid innovation in jurisprudence. Finally, it urges scholars to generate a new discussion regarding the criteria of theory-acceptance toward the end of creating innovative sparks that lead to better theory-building.

I. FOUNDATIONAL VERSUS QUANTITATIVE ANALYSIS

The centerpieces of this Symposium focus on the possibilities of quantitative methods of determining the popularity of articles or the productivity of faculty members. It may be argued that citation counts are one measure of the impact of legal theorizing. The argument might be that cutting edge topics are the kind that generate discussion—they are the sorts of issues that keep scholars talking. And the citation practices of courts may give some insights into the practical influence of theory.[6] Quantitative approaches can also yield some useful information about the race and gender composition of referential authority.[7]

Fred Shapiro's data regarding citation counts for recent articles show significant representations of outsiders,[8] so significant in fact

6. *See, e.g.*, Louis J. Sirico Jr. & Jeffrey B. Margulies, *The Citing of Law Reviews by the Supreme Court: An Empirical Study*, 34 UCLA L. REV. 131 (1986).

7. *See* James Lindgren & Daniel Seltzer, *The Most Prolific Law Professors and Faculties*, 71 CHI.-KENT L. REV. 781, 804 (1996).

8. Shapiro, *Articles Revisited*, *supra* note 1, at 758.

> If we combine women and minority scholars into one demographic "outsider" category, we find that 39 of 103 articles in the latest ten-year period and 28 of 51—a majority—in the latest five years are "outsiders" in this sense. The minority majority reaches an

that he concludes that "outsiders in this period have achieved some kind of insider status in the law reviews, if not outright dominance."[9]

Shapiro also estimates that for the latest five years of his study (1987-91), most of the most-heavily-cited articles are "'outsider' in their politics" (presumably written from the perspective of or concerning issues of feminism, critical race theory, and critical legal studies).[10] Professor James Lindgren's and Daniel Seltzer's data show that women and racial minorities are breaking into the top law reviews in numbers roughly commensurate with their presence in the profession, although they note that women are underrepresented in the top twenty-five "most-prolific" positions.[11] Apart from the last part, this is encouraging news, but should be received with some skepticism.

Reliance on quantitative assessments of legal scholarship may tend to subtly perpetuate existing hierarchies of race, gender, and theory prominence, while telling little about the substantive or foundational qualities of a theory. Citation analysis has its empirical limitations. It possesses certain self-legitimating qualities, which call into question the significance of citations. Do heavy-hitters in the citation count have inflated batting averages because of obligatory citation practices to the most conspicuous works in an area? Conversely, is the influence of rookie authors underestimated because some writers may not mention background works on which they relied?[12] Are some articles completely omitted from the citation count because they were not selected in the first place to have their citations counted?[13] Does selecting the *X* number of top articles in a field or citation count tend to focus attention on an elite group of articles or authors to the

astonishing level if only the top five of each year from 1987 to 1991 is tabulated. Seventeen of 26 top-ranking articles from these five years are outsider-authored. The number goes to 19 of 26 if openly gay scholars are added in to the demographic outsider definition.

Id.

9. *Id.*

10. *Id.*

11. Lindgren & Seltzer, *supra* note 7, at 804.

12. *See* Wade H. McCree, Jr., *Partners in a Process: The Academy and the Courts*, 37 WASH. & LEE L. REV. 1041, 1043 (1980).

13. Fred Shapiro details his careful (and seemingly exhausting, even if not completely exhaustive) methodology in an Appendix to his article. *Articles Revisited*, *supra* note 1, at 778. He should be complimented on his efforts to move toward an examination of the interdisciplinary impact of materials. Yet it is important to note that his choice of which articles to check was determined by looking at lists of citations from Shepards and from an interdisciplinary source, listing citation to articles appearing in "*21 key*" law reviews. In other words, might an article be out of the running before the tabulation starts if it has a wide interdisciplinary impact but does not appear in a sufficiently prestigious journal to begin with?

exclusion of a diverse and productive (although not with individual "greatest hits" in "most-cited" reviews) second string?

There are, of course, other issues that quantitative analysis cannot reach. Are certain articles published or cited because of "the jargon factor"[14] (because they use hot jurisprudential terminology) or the cute factor (say, a memorable title)? Does an article rocket in a later citation count because of its prominence in an earlier one (quantitative success breeding quantitative success)? Of course, none of these questions concerning possible shortcomings of numeric modes of analysis addresses the methods by which, *in the first place*, articles are selected for publication or authors are invited to write for a particular symposium.[15] At bottom, these are not methodological quibbles intended to strike at the statistical soundness of citation counting methods, but deeper questions directed at the ways in which pre-existing social and political biases subtly influence these quantitative methods of assessment and their perception and use.

There is also a political backdrop to quantitative analysis, which will not be illuminated by any measures of citations or productivity. Do citation counts or measures of faculty productivity accurately portray the reception of outsider scholars, their scholarship, or their theories? Are women and racial minorities also moving up occupational ladders? The data suggest that outsiders are not being promoted or tenured at rates commensurate with their presence in the profession or the population.[16] No matter what outsiders do in the way of heroic

14. I am indebted to Professor Ellen Suni for this point.

15. *See* Jean Stefancic, *The Law Review Symposium: A Hard Party To Crash for Crits, Feminists, and Other Outsiders*, 71 CHI.-KENT L. REV. 989, 998 (1996) (discussing social mechanisms by which party invitations to publications may be issued to traditional scholars but not outsiders).

16. *See, e.g.*, Richard H. Chused, *The Hiring and Retention of Minorities and Women on American Law School Faculties*, 137 U. PA. L. REV. 537, 543-45 (1988) (reporting that while approximately half of tenured white law professors left a school because of retirement or death, only one-fifth of tenured African American professors left a school for those reasons; noting also that "twice as many black non-tenured professors moved to other schools before their tenure decisions were made"); Valerie Fontaine, *Progress Report: Women and People of Color in Legal Education and the Legal Profession*, 6 HASTINGS WOMEN'S L.J. 27, 30-31 (1995) ("Although women have gained entry to the male bastion of legal academia, they remain clustered at the bottom. Over 40% of clinical instructors and more than 70% of writing instructors are female, making these the female ghettos of legal education. By contrast, rare is the woman who reaches the top—the position of law school dean."); Deborah Jones Merritt, *The Status of Women on Law School Faculties: Recent Trends in Hiring*, 1995 U. ILL. L. REV. 93, 97-98 (using multiple regression analysis to ascertain, among other things, that "minority men were hired at significantly more prestigious schools than were minority women with the same credentials and personal circumstances" and that "[w]omen were significantly more likely to start on the bottom rung of the tenure-track ladder, as assistant professors"); Michael A. Olivas, *The Education of Latino Lawyers: An Essay on Crop Cultivation*, 14 CHICANO-LATINO L. REV. 117, 134 (1994) (remarking that only one-third of all law schools have two or more minorities on the faculty);

publishing, promotion and tenure committees may still keep in mind criteria of meritocracy.[17] And if publication in a fancy review is determinative of merit, the feedback loop by which law review editors look at the occupational ranking of an author—an instructor or an assistant, associate, or full professor—and the prestige of that author's school and factor those credentials into a publication decision remains unexplored.[18]

Also, how will scholarship of outsiders be valued? One conclusion that could be drawn from the data is that outsiders are talking a lot—but perhaps only to each other.[19] Are their ideas sifting into the mainstream? We need measures other than quantitative criteria to evaluate the theoretical influence of these scholars. Another political dimension may be stratification: outsiders have broken into the inner circle, but is there repetitive citation of a few key scholars of color? In Professor Frances Olsen's three alternate visions of what these citation counts reflect, her least optimistic forecast envisions the wane of affirmative action depriving the academy of additional outsider voices accompanied by a possible devaluation of publishing at prestigious law reviews precisely *because* outsiders are doing it.[20] In short, if outsiders become insiders, will the meritocracy remain, but turn inside out?

According to Professor Lindgren and Seltzer, "[t]he most striking finding" of their computations "is that nineteen of the top twenty-five individual publishers are lateral appointments."[21] Does this say that schools with money buy talent? Or that writing is a measure of ambition? And what kinds of scholarship will be valued if the principal

Carl Tobias, *Engendering Law Faculties*, 44 U. MIAMI L. REV. 1143, 1145-46 (1990) (noting the "dearth of tenured female faculty" and observing that women faculty may be relegated to lower-paying, lower-status positions teaching legal writing: "[w]omen now occupy two-thirds of the legal writing positions").

17. *See* Marina Angel, *Women in Legal Education: What It's Like To Be Part of a Perpetual First Wave or the Case of the Disappearing Women*, 61 TEMP. L. REV. 799 (1988); Richard Delgado, *Minority Law Professors' Lives: The Bell-Delgado Survey*, 24 HARV. C.R.-C.L. L. REV. 349 (1989); Martha S. West, *Gender Bias in Academic Robes: The Law's Failure to Protect Women Faculty*, 67 TEMP. L. REV. 67 (1994).

18. Judge Richard Posner argues that "law review editors generally lack the competence to select and improve [nondoctrinal] scholarship." Richard A. Posner, *The Future of the Student-Edited Law Review*, 47 STAN. L. REV. 1131, 1136 (1995). I am less concerned with student competence, and much more concerned with the subtle manifestations of bias, which can occur with student or peer-reviewed journals, perhaps to even a greater extent with the latter.

19. Is there an "outsider" bias toward citing other "outsiders"? Does this up their citation count?

20. Frances Olsen, *Affirmative Action: Necessary But Not Sufficient*, 71 CHI.-KENT L. REV. 937, 937 (1996).

21. Lindgren & Seltzer, *supra* note 7, at 805.

measure of worth is repeated citation? Will this promote an institutional bias toward the general and away from sustained, detailed inquiry or empirical work? The data seem to yield questions, if not answers, regarding the marketplace, rather than any insights into the substantive qualities of what is being written.

Perhaps quantitative analysis simply asks the wrong questions—not just in the dimension of relying on the popularity of a theory as opposed to its explanatory or exploratory power, but perhaps the direction of quantitative inquiry is fundamentally wrong. We might learn more about scholarship and the politics of the legal academy if we explore instead what works are *not* being cited and why.[22]

This Essay suggests that more useful insights can be gleaned from exploring the substantive qualities of scholarship rather than the indicia of its popularity. Several theorists have suggested such qualitative criteria instead of quantitative indicia for the evaluation of legal scholarship. Professor Mary Coombs, for example, sympathetic to the plight of outsiders evaluated by the traditional criteria of merit, urges outsider scholars to develop their own criteria of evaluation.[23] She also advises that critical race scholars and feminists focus on their audience and write "in a way that would appeal to decisionmakers."[24] The suggested focus on audience is still wedded to the criteria of meritocracy by accepting the current evaluative institutions and by promoting as one measure of worth how well an article appeals to those who believe in traditional criteria of merit.

Beginning from a phenomenological standpoint, Professor Edward Rubin also has offered qualitative criteria by which to judge scholarship. His recommended criteria are: significance (contributing to the development of a field), applicability (possessing insights that add to understanding), clarity (containing a clear statement of normative premises), and persuasiveness (convincingness, assuming the

22. *See* Delgado, *The Imperial Scholar*, *supra* note 5, at 562-63 (describing somewhat incestuous citation patterns among white male scholars, who cite to each other but not to women scholars or scholars of color).

23. Mary I. Coombs, *Outsider Scholarship: The Law Review Stories*, 63 U. COLO. L. REV. 683, 697, 706 (1992) (offering, among other standards, the uncontroversial suggestions that scholarship be "coherent, well-reasoned, articulate, and precise" as well as "analytic [and] tightly reasoned"); *see also* Philip C. Kissam, *The Evaluation of Legal Scholarship*, 63 WASH. L. REV. 221, 222 (1988) (proposing a pluralistic approach to the evaluation of legal scholarship according to the diverse purposes it may serve). *But see* Richard Delgado, *Legal Scholarship: Insiders, Outsiders, Editors*, 63 U. COLO. L. REV. 717, 723 (1992) (urging restraint in the development of criteria for a nascent critical movement).

24. Coombs, *supra* note 23, at 707.

reader accepts the normative structure).[25] These criteria have aspects of virtue,[26] but they seem ultimately less useful than the criteria of rationality because they are more emotive and less clear.[27]

The criteria I offer to distinguish cutting edge scholarship are not comprehensive, nor must they all be present. Generally, the more that apply to a piece or area of scholarship, the closer that work comes to being at the innovative margins. These criteria are not connected to prestige or authority or expertise of the established kinds. Thus, I am not concerned with what is popular or fancy scholarship, but what is powerful scholarship.

The criteria used herein to evaluate the innovative successes of critical theories, particularly feminism, are criteria of rationality.[28] These criteria for theory-building are generally accepted in the sciences and social sciences.[29] The criteria include: the cumulative, comprehensive, and converging evidence of a theory's empirical basis; explanatory power, depth or constructivity; fertility or exploratory power; verifiability and falsifiability; social-technical power; and simplicity or elegance.

Cumulative, comprehensive, and converging evidence means evidence gathered over time, in variable contexts (including different disciplines and sub-disciplines), by various methodologies.[30] Deep theories, those with explanatory power, postulate the relations, entities, and processes that undercut observable phenomena. That means putting pieces of evidence together—relating theories to other theories.[31] A theory is fertile, or possesses exploratory power, if it gives

25. Edward L. Rubin, *On Beyond Truth: A Theory for Evaluating Legal Scholarship*, 80 CAL. L. REV. 889, 912-40 (1992).

26. While he discounts scientific rationality as a basis for understanding, Professor Rubin's instrumental definition of significance, for example, points to some of the same qualities as those embraced by the criteria of rationality. *Id.* at 928-35 (describing qualities of significance as acceptance and recognition, innovation, promoting advancement in a given field, and having fruitful effects on the development of other scholarship).

27. The criterion of persuasiveness, for instance, is subjectivisit; it does not tell what grounds of persuasion should be valued. Similarly, how is clarity evaluated? By what criteria is applicability determined?

28. *See* Nancy Levit, *Listening To Tribal Legends: An Essay on Law and the Scientific Method*, 58 FORDHAM L. REV. 263, 267-72 (1989).

29. *See, e.g.*, JAMES BOHMAN, NEW PHILOSOPHY OF SOCIAL SCIENCE: PROBLEMS OF INDETERMINACY 194 (1991); RICHARD S. RUDNER, PHILOSOPHY OF SOCIAL SCIENCE 7 (1966).

30. *See, e.g.*, JEROME R. RAVETZ, SCIENTIFIC KNOWLEDGE AND ITS SOCIAL PROBLEMS 209 (1973) (the "special character [of scientific knowledge] results from the complexity and interconnectedness of its materials, as they evolve through the complex and fallible social processes of their use and adaptation").

31. *See* Michael Martin, *How to Be a Good Philosopher of Science: A Plea for Empiricism in Matters Methodological*, *in* METHODOLOGY, METAPHYSICS AND THE HISTORY OF SCIENCE 39

rise to and searches for new relations and interdependencies.[32] Tied to this is extensibility, which means that aspects of a theory live on as new relations are found.[33]

Theories must be capable of verification and falsification: "The demand that, as a science progresses, its theories should become more and more falsifiable, and consequently have more and more content and be more and more informative, rules out modifications in theories that are designed merely to protect a theory from a threatening falsification."[34] The social-technical power of a theory refers to its ability to prevent, modify, invent, start, stop, interconnect, and transform.[35] It is the practical, applicatory end of scientific and rational procedures. Finally, simplicity or elegance refers to a theory being distinguished as systematically unified and unifying, one which brings together the general and the particular, and which is largely devoid of special circumstances.[36] None of these criteria is foundational nor more important than the others; they operate as a systemic whole.

As used here, "rational" focuses on the grounds, the criteria, for evaluating arguments (the giving of reasons for conclusions). The concern is with the social, personal, physical, and intellectual behaviors that seem to best justify or warrant conclusions, whether for particular claims or general theories. There is no one rationality, but the criteria encompass the possibility of divergent rationalities, some more or less evidentially warranted.

Why judge legal scholarship by these criteria? Why select these criteria in lieu of audience appeal, persuasiveness, citation counts, or other measures of demonstrated popularity? One method of justifica-

(Robert S. Cohen & Marx W. Wartofsky eds., 1984) (deep theories "go beyond the appearance of things to their innermost structure").

32. *See* Ernan McMullin, *The History and Philosophy of Science: A Taxonomy*, *in* HISTORICAL AND PHILOSOPHICAL PERSPECTIVES OF SCIENCE 12, 14 (Roger H. Steuwer ed., 1970).

33. *See* I. BERNARD COHEN, REVOLUTION IN SCIENCE 395 (1985) (describing how the Copernican and Cartesian revolutions in knowledge influenced Newtonian thought); GARVIN MCCAIN & ERWIN M. SEGAL, THE GAME OF SCIENCE 50 (1988) (scientific explanations have predictive abilities).

34. A.F. CHALMERS, WHAT IS THIS THING CALLED SCIENCE? 51 (2d ed. 1982); *see also* ARTHUR N. STRAHLER, UNDERSTANDING SCIENCE: AN INTRODUCTION TO CONCEPTS AND ISSUES 58 (1992) (scientific theories must be empirically falsifiable).

35. *See* COHEN, *supra* note 33, at 41 (describing revolutionary theories as those which "include conceptual changes of a fundamental kind, radical alterations in the standard or accepted norm of explanation, new postulates or axioms, new forms of acceptable knowledge, and new theories that embrace some or all of these features and others"); RUDNER, *supra* note 29, at 41 (discussing the power of a theory as manifested in its range of applications).

36. *See* RONALD N. GIERE, EXPLAINING SCIENCE: A COGNITIVE APPROACH 39 (1988); STEPHEN W. HAWKING, A BRIEF HISTORY OF TIME: FROM THE BIG BANG TO BLACK HOLES 9 (1988); RICHARD W. MILLER, FACT AND METHOD: EXPLANATION, CONFIRMATION AND REALITY IN THE NATURAL AND THE SOCIAL SCIENCES 252-62 (1987).

tion for using these criteria is a comparison with other known evaluative methods. Constructivist positions, such as some critiques premised on postmodernism, yield no criteria for knowing what is worth retaining, and seem to insulate themselves from criticism by adopting the self-protected posture of outsider looking in.[37] Evaluating scholarship to determine how well it comports with a particular ideology is both a limited and intellectually frail method of assessing scholarship, as is denouncing the worth of scholarship purely on the basis of its ideological leanings.[38] The criteria offered by scholars such as Professor Rubin move toward the evaluation of theory power and significance, but they are less than precise.

The superiority of the criteria of rationality is that they can explain weaknesses or contradictions in other forms of argument. The more general moral, rational, and empirical principles which ground, explain, and justify claims should be of central concern. These criteria can better align jurisprudential assumptions with rationally warranted beliefs about evidence, decision-making, meanings, and values. To use an analogy, the criteria move on a theoretical level, as the Supreme Court moved on the doctrinal level in *Daubert v. Merrell Dow Pharmaceutical*,[39] from a "general acceptance" theory for the verification of knowledge to a scientific "reliability" test.

The justification for using the criteria of rationality does become circular in part (the criteria are defended by the use of the criteria). They include, though, a methodology for their own improvement and, if necessary, abandonment.[40] However, the central and pervasive theme of the criteria of rationality is the attitude of inquiry and openness fostered through their use. Socialized, the rational method is a way of taking into account the continued interplay of experience and methodology over time and space, context and disciplines.

37. *See, e.g.*, Anne M. Coughlin, *Regulating the Self: Autobiographical Performances in Outsider Scholarship*, 81 VA. L. REV. 1229 (1995).

38. *See* Randall L. Kennedy, *Racial Critiques of Legal Academia*, 102 HARV. L. REV. 1745, 1778-87 (1989).

39. 509 U.S. 579 (1993).

40. There have been modifications to the criteria of the scientific method over time, and a general movement away from essentialism, foundationalism, grand requirements, and fixed beliefs as determinative of scientific merit. *See generally* THE STRUCTURE OF SCIENTIFIC THEORIES (Frederick Suppe ed., 1977). *See also* SCRUTINIZING SCIENCE: EMPIRICAL STUDIES OF SCIENTIFIC CHANGE (Arthur Donovan et al. eds., 1988) (drawing on a variety of studies from history, cross-cultural sociology, linguistics, and other disciplines, to examine how criteria of scientific or rational acceptability of scientific theories have changed).

II. CUTTING EDGE CRITICAL THEORY

Innovation, of course, is essential to cutting edge work. New information and analysis, new ways of viewing problems, and new methodologies or explanations create intellectual progress.[41] But how do we know which innovation is good innovation? The quest to say something new may be a stretch, unsupported by evidence or by any normative reason for the inquiry—with the thrust simply being to arrive at novelty. How do we distinguish cutting edge scholarship from scholarship that is weird, strange, unusual, and faddish? We may not be able to do that for many years until we take a retrospective look: classic doctrinal analysis has been remarkably persistent;[42] rational actors models in economics and even newer models such as game theory and public choice theory seem durable;[43] identity politics—the politics of race, class, and gender—has produced trenchant and increasingly respected scholarship.[44] But how can we figure out *now* what is *significant* innovation?[45]

The first substantive point about cutting edge work is that scholarship at the defining boundary relies foundationally on cumulative, comprehensive, and converging evidence. This demonstrated empirical basis avoids reducing any theory to any particular arena of observations or sets of data. It promotes not only replication, but also fertility (the conjoining of formerly isolated pockets of data, theories, and experience). It encourages interconnectivity and extensibility, i.e., portions of it live on in other theories; it leads to increasing and diverse areas of theoretical and empirical relevance; and it may lead

41. *See* William E. Nelson, *Standards of Criticism*, 60 TEX. L. REV. 447, 485-86 (1982) ("Occasionally . . . knowledge takes a large step forward. In science, those large steps are associated with names like Copernicus, Newton, and Einstein; in legal history, with names like Maitland and Hurst. All five of these scholars broke out of conventional modes of thought and pushed the frontiers of knowledge well forward by creating new conventions of thought. They stood out because they were extra ordinary; and they were extra ordinary because they rejected many of the scholarly conventions of their time, did not ask commonplace questions, and did not ground their work on widely held perspectives and analytical forms.").

42. *See, e.g.*, Roger C. Cramton, *Demystifying Legal Scholarship*, 75 GEO. L.J. 1, 14 (1986) (asking rhetorically, "If law professors do not perform this social function [critical and skilled evaluation of legal doctrine and legal institutions], who will do so?").

43. *See, e.g.*, DOUGLAS G. BAIRD ET AL., GAME THEORY AND THE LAW (1994); Ian Ayres, *Playing Games with the Law*, 42 STAN. L. REV. 1291 (1990); Daniel A. Farber & Philip P. Frickey, *The Jurisprudence of Public Choice*, 65 TEX. L. REV. 873 (1987).

44. *See, e.g.*, Jerome McCristal Culp, Jr., *Toward a Black Legal Scholarship: Race and Original Understandings*, 1991 DUKE L.J. 39, 45; Richard Delgado, *The Imperial Scholar Revisited: How To Marginalize Outsider Writing, Ten Years Later*, 140 PA. L. REV. 1349, 1350 (1992).

45. Of course, novelty alone is not enough. The very concept of innovation contemplates not just nascency, but useful insights.

to increasing systematization of theories or modifications of related theories.[46]

Umbilical to this is the second point, that evidence—to be truly comprehensive—should come from other disciplines. There has been a burst of awareness since the late nineteenth century that the activities of life—from physiological to psychological—are interconnected and inter-influential. Interdisciplinary connections tie together seemingly unrelated areas, such as cosmology and quantum mechanics,[47] or demographics, sociology, and the origins of crime.[48] Interdisciplinary foundation for legal theory is essential; it allows a systematic and comprehensive look at human experience.[49] Law understood without this foundation is law comprehended out of context.[50]

A. The Example of Feminism

I will use the vehicle of feminist theory to illustrate the first two points about building the empirical foundation for scholarship and about interdisciplinary work. Feminist legal theory has several differ-

46. *See, e.g.*, Gerald Doppelt, *Relativism and Recent Pragmatic Conceptions of Scientific Rationality*, *in* SCIENTIFIC EXPLANATION AND UNDERSTANDING 107, 141 (Nicholas Rescher ed., 1983) (maintaining that "(partial) cumulativity, continuity, and unity . . . seem[ ] essential to the possibility of science as cognitive progress").

47. *See* LEON M. LEDERMAN & DAVID N. SCHRAMM, FROM QUARKS TO THE COSMOS: TOOLS OF DISCOVERY 9 (1989) (indicating data collected from various astronomical phenomena, such as explosions of stars and aberrations of light, can contribute to testing the predictions made in quantum mechanics about the existence of a hundred or so postulated subatomic particles).

48. It is not just social class, but differences between upper and lower classes, and class unity and disunity; not mere poverty, but relative poverty; not just a particular attitude toward crime, but a history and tradition of attitudes and community integration and disintegration that is connected with the prevalence of crime. *See, e.g.*, UNDERSTANDING AND PREVENTING VIOLENCE (Albert J. Reiss, Jr. & Jeffrey A. Roth eds., 1993); Mark Kelman, *The Origins of Crime and Criminal Violence*, *in* THE POLITICS OF LAW: A PROGRESSIVE CRITIQUE 214 (David Kairys ed., 1982); Kirk R. Williams & Robert L. Flewelling, *The Social Production of Criminal Homicide: A Comparative Study of Disaggregated Rates in American Cities*, 53 AM. SOC. REV. 421 (1988).

49. In fact, my cynical view on hot topics is: look to see what is current in other disciplines now and you can see what will be on the cutting edge in law fifteen years from now. Law has no methodology of its own and is a notorious scavenger of other disciplines—not that that is a bad thing; interdisciplinary work is a very good thing—it is just that we are so awfully slow about doing it. *See* Martha Minow, *Law Turning Outward*, 73 TELOS 79, 91-92 (1987) (commenting on the "lag time before the ideas from academic study permeate[ ] the rest of society including law").

50. *See* Phillip Areeda, *Always a Borrower: Law and Other Disciplines*, 1988 DUKE L.J. 1029, 1031. Law is not structurally set up to promote this interconnectivity. The reigning positivist model relegates inquiry in law to sets of rules as the principal locus of answers. Even on the level of theory, Professor Jay Mootz observes that interdisciplinary explorations often begin and end with capturing substantive support from other disciplines without using the knowledge in either discipline to reconstruct disciplinary boundaries or re-examine a discipline's purposes or methods of inquiry. Francis J. Mootz III, *Desperately Seeking Science*, 73 WASH. U. L.Q. 1009, 1010 (1995).

ent principal strands or camps: equal treatment theory, difference theory, dominance theory, pragmatic feminism, and theories of feminist essentialism.[51] But whether the goal of a particular feminist legal theorist is to promote equality[52] or skepticism about claims of foundational knowledge,[53] to acknowledge and emphasize differences between men and women[54] or between women and women,[55] or to fundamentally challenge the embedded, systemic, and structural conditions that promote the replication of patriarchy,[56] the schools of feminist legal theory are united in one facet of their epistemological approaches.

All three schools are reaching into other disciplines for methodological, theoretical, and empirical support. Equal treatment theorists, difference theorists, and dominance theorists have all searched the historical record for evidence of the persistence of patriarchy across time and cultures. In constructing arguments to redress inequities in prevailing wage laws, employment discrimination laws, sexual harassment interpretations, child custody laws, and other areas,[57] feminist theorists in law have relied on innovations across disciplinary

51. *See* ROBERT L. HAYMAN, JR. & NANCY LEVIT, JURISPRUDENCE: CONTEMPORARY READINGS, PROBLEMS, AND NARRATIVES 330 (1994).

52. The equal treatment theorists historically argued for equal wages, equal employment opportunities, and equal social stature. They do compensatory scholarship—figuring out what male scholarship leaves out and adding to it. This has been called the "add women and stir" approach. *See* Heather R. Wishik, *To Question Everything: The Inquiries of Feminist Jurisprudence*, 1 BERKELEY WOMEN'S L.J. 64, 67 (1985).

53. *See* Margaret J. Radin, *The Pragmatist and the Feminist*, 63 S. CAL. L. REV. 1699, 1707 (1990) (noting that "[p]ragmatism and feminism largely share . . . the commitment to finding knowledge in the particulars of experience").

54. Cultural feminists or special treatment theorists, probably the predominant group of feminist legal theorists, suggest that "women's voices . . . emphasize positive values such as caring, nurturing, and empathy," and that women have special needs unshared by men due to their biological roles as child-bearers and their social roles as primary child-raisers. Linda J. Lacey, *Introducing Feminist Jurisprudence: An Analysis of Oklahoma's Seduction Statute*, 25 TULSA L.J. 775, 786 (1990).

55. Some critical race feminists and lesbian feminists have remarked on the dangers of speaking and writing as if a "unitary, 'essential' women's experience can be isolated and described independently of race, class, sexual orientation, and other realities of experience." Angela P. Harris, *Race and Essentialism in Feminist Legal Theory*, 42 STAN. L. REV. 581, 585 (1990); *see also* Patricia A. Cain, *Feminist Jurisprudence: Grounding the Theories*, 4 BERKELEY WOMEN'S L.J. 191 (1989-90); Maia Ettinger, *Color Me Queer: An Aesthetic Challenge to Feminist Essentialism*, 8 BERKELEY WOMEN'S L.J. 106 (1993).

56. The radical feminists, or dominance theorists, focus on the power relations between men and women, and the pervasiveness of male social, political, economic, and sexual coercion of women. *See, e.g.*, CATHARINE A. MACKINNON, FEMINISM UNMODIFIED: DISCOURSES ON LIFE AND LAW 40 (1987).

57. *See, e.g.*, CATHARINE A. MACKINNON, SEXUAL HARASSMENT OF WORKING WOMEN: A CASE OF SEX DISCRIMINATION (1979); LENORE J. WEITZMAN, THE DIVORCE REVOLUTION: THE UNEXPECTED SOCIAL AND ECONOMIC CONSEQUENCES FOR WOMEN AND CHILDREN IN AMERICA (1985).

boundaries. For example, feminist legal theorists have studied literary theory, which displays gender ideology packaged in the portrayals of women in texts: "the ways in which women were represented, disempowered, forced into stereotypical molds, and punished for any refusal to conform."[58] They have also turned to: cultural anthropology—the examination of patterns of men's and women's typical behaviors, occupations, and roles;[59] sociolinguistics—the disclosure that women's tentative and deferential linguistic styles relate to gender-linked issues of power and dominance;[60] economics—an evidential record regarding the subordination women face in various situations—from wage-earning[61] to car-buying,[62] from tort reforms that will disparately impact damage awards to women[63] to post-divorce financial hardships[64] to international exclusions from participation in a country's economic life;[65] and sociology and developmental psychol-

58. Carolyn Heilbrun & Judith Resnick, *Convergences: Law, Literature & Feminism*, 99 YALE L.J. 1913, 1934 (1990).

59. *See, e.g.*, Holly Maguigan, *Cultural Evidence and Male Violence: Are Feminist and Multicultural Reformers on a Collision Course in Criminal Courts?*, 70 N.Y.U. L. REV. 36 (1995).

60. Professors of sociolinguistics on different continents have documented gendered patterns of dominance and subordination in discourse: while males often speak authoritatively and controllingly, females tend to speak submissively and hesitantly. JULIA KRISTEVA, DESIRE IN LANGUAGE: A SEMIOTIC APPROACH TO LITERATURE AND ART (1980); ROBIN T. LAKOFF, LANGUAGE AND WOMAN'S PLACE (1975). Those of you who are professors or students probably recognize that female students often raise their hands tentatively in class; male students—whether it results from testosterone or millennia of social teaching—will raise their hands assertively. Women often apologize for their answers, and perhaps for their very existence, before giving arguments—"I don't know if this is what you are looking for . . . " or "I'm not sure if this is right . . . ."

61. *See* Nancy E. Dowd, *Stigmatizing Single Parents*, 18 HARV. WOMEN'S L.J. 19, 34 (1995); Robert H. Cohen, Note, *Pay Equity: A Child of the 80s Grows Up*, 63 FORDHAM L. REV. 1461, 1462 n.16 (1995) ("The astonishing numbers continue: individually, women lose over $420,000 during their lifetime due to pay equity; on an annual basis, the collective loss due to wage discrimination against women is over $100 billion; among college graduates, white men earned approximately $9,000 more in 1992 than did men of color, and approximately $13,000 more than their female colleagues.").

62. *See* Ian Ayres, *Fair Driving: Gender and Race Discrimination in Retail Car Negotiations*, 104 HARV. L. REV. 817 (1991); Ian Ayres, *Further Evidence of Discrimination in New Car Negotiations and Estimates of Its Cause*, 94 MICH. L. REV. 109 (1995).

63. *See* Thomas Koenig & Michael Rustad, *His and Her Tort Reform: Gender Injustice in Disguise*, 70 WASH. L. REV. 1 (1995) (arguing that since women are more likely to receive non-economic damages in medical products liability litigation than men, proposals for tort reforms will disproportionately impact women).

64. *See* MARTHA A. FINEMAN, THE ILLUSION OF EQUALITY: THE RHETORIC AND REALITY OF DIVORCE REFORM 4 (1991); Karen C. Holden & Pamela J. Smock, *The Economic Costs of Marital Dissolution: Why Do Women Bear a Disproportionate Cost?*, 17 ANN. REV. SOC. 51 (1991).

65. *See* Adrien K. Wing & Eunice P. de Carvalho, *Black South African Women: Toward Equal Rights*, 8 HARV. HUM. RTS. J. 57 (1995).

ogy—the increasing documentation regarding the social construction of gender roles.[66]

The empirical and epistemological bases of feminism span numerous disciplines.[67] In drawing on economic data, public opinion polls, social and biological evidence, literary theory, behavioral research, and tests of hypotheses about the formation of ideological beliefs, feminist legal theory relies foundationally on cumulative, comprehensive, and converging evidence. What gives the feminist critique its power is how the findings from other disciplines accumulate—how they build on each other;[68] how they are comprehensive—how they encompass the situations of women from the vantage points of psychology, sociology, history, literature, and anthropology;[69] and how they converge—how they point toward central propositions about subordination.

A third criterion of cutting edge scholarship is that innovative legal theories will be fertile theories; they will lead to explanatory and exploratory spin-offs. Implicated by the demands that evidence supporting theories be cumulative, comprehensive, and converging, is the continuing search for new relations and interconnectivities.[70] Exploratory theories are those which begin to develop alternative explanations of related pockets of data, see that simplistic, reductionistic causes are inadequate, and keep central open and continuing inquiry.

Again to draw from the example of feminism—feminist legal theory has not remained statically in the realm of theory. Scholars have

66. For example, Arlie Hochschild studies the gendering of housework. Her research reveals that even women who work outside the home disproportionately shoulder the housework:

> Adding together the time it takes to do a paid job and to do housework and childcare, I averaged estimates from the major studies on time use done in the 1960s and 1970s, and discovered that women worked roughly fifteen hours longer each week than men. Over a year, they worked an extra month of twenty-four hours days. Over a dozen years, it was an extra year of twenty-four hour days. . . .

ARLIE R. HOCHSCHILD, THE SECOND SHIFT: WORKING PARENTS AND THE REVOLUTION AT HOME 3-4, 8 (1989).

67. *See, e.g.*, KATHRYN PYNE ADDELSON, IMPURE THOUGHTS: ESSAYS ON PHILOSOPHY, FEMINISM, AND ETHICS (1991); BETWEEN FEMINISM AND PSYCHOANALYSIS (Teresa Brennan ed., 1989); DEBORAH CAMERON, FEMINISM AND LINGUISTIC THEORY (1985); DIANA H. COOLE, WOMEN IN POLITICAL THEORY: FROM ANCIENT MISOGYNY TO CONTEMPORARY FEMINISM (1993); FEMINISM AND POLITICAL THEORY (Judith Evans et al. eds., 1986); ANNE FAUSTO-STERLING, MYTHS OF GENDER: BIOLOGICAL THEORIES ABOUT WOMEN AND MEN (1992); FEMINISM AND METHODOLOGY: SOCIAL SCIENCE ISSUES (Sandra Harding ed., 1987).

68. *See, e.g.*, Ann C. Scales, *The Emergence of Feminist Jurisprudence: An Essay*, 95 YALE L.J. 1373 (1986) (tracing the development of feminist theory in law from roots in philosophy, educational psychology, and psychoanalytic theory).

69. *See supra* text accompanying notes 57-66.

70. *See* PAUL HUMPHREYS, THE CHANCES OF EXPLANATION: CAUSAL EXPLANATION IN THE SOCIAL, MEDICAL, AND PHYSICAL SCIENCES 140-41 (1989).

branched out and explored its applications to the environmental justice area,[71] to clinical teaching,[72] and to lawyering.[73] Feminist jurisprudence has transformed law in important ways. It has, for example, impelled evidentiary changes in the way rape prosecutions are handled and generated the enactment of laws against sexual harassment.[74] Recent inquiries have expanded on the premise that gender can be disempowering by exploring the intersections between gender and sex and sexual orientation[75] and by applying feminist theory to situations in which sexual stereotyping harms men.[76]

A fourth and related criterion of good theory-building is depth or constructivity. Deep theories posit connections and relations that help explain facts; they construct explanations that go beyond the facts.[77] Feminist legal theory was parented in part by critical legal studies, and its growth was encouraged by connections to other theories, such as critical race theory.[78] It has also fleshed itself out theoretically by turning inward to explore its own methodologies and assumptions.[79] The fertility of feminism is evidenced by some recent cross-disciplinary ventures. Some scholars have begun using the as-

71. *See, e.g.*, Robert R. Verchick, *In a Greener Voice: Feminist Theory and Environmental Justice*, 19 HARV. WOMEN'S L.J. 23 (1996); Robert F. Housman, *The Muted Voice: The Role of Women in Sustainable Development*, 4 GEO. INT'L ENVTL. L. REV. 361 (1992).

72. *See, e.g.*, Phyllis Goldfarb, *A Theory-Practice Spiral: The Ethics of Feminism and Clinical Education*, 75 MINN. L. REV. 1599 (1991).

73. *See, e.g.*, Naomi R. Cahn, *Styles of Lawyering*, 43 HASTINGS L.J. 1039 (1992); Ruth Colker, *Feminist Litigation: An Oxymoron?—A Study of the Briefs Filed in* William L. Webster v. Reproductive Health Services, 13 HARV. WOMEN'S L.J. 137 (1990).

74. *See* Richard A. Posner, *Legal Scholarship Today*, 45 STAN. L. REV. 1647, 1651 (1993).

75. *See, e.g.*, Katherine M. Franke, *The Central Mistake of Sex Discrimination Law: The Disaggregation of Sex From Gender*, 144 U. PA. L. REV. 1 (1995); Francisco Valdes, *Queers, Sissies, Dykes, and Tomboys: Deconstructing the Conflation of "Sex," "Gender," and "Sexual Orientation" in Euro-American Law and Society*, 83 CAL. L. REV. 1 (1995).

76. *See, e.g.*, Mary Anne C. Case, *Disaggregating Gender from Sex and Sexual Orientation: The Effeminate Man in the Law and Feminist Jurisprudence*, 105 YALE L.J. 1 (1995); Nancy Levit, *Feminism for Men: Legal Ideology and the Construction of Maleness*, 43 UCLA L. REV. 1037 (1996).

77. *See* Levit, *supra* note 28, at 269 ("A deep thesis goes beyond merely stating or describing phenomena. It explains possible causal relationships among observable phenomena, arranges isolated events into general patterns and seeks underlying explanations."). Evolutionary theory, for instance, is a deep theory in that while no one has seen biological evolution occur, scientists have used principles from geology, anatomy, embryology, physiology, and biochemistry, and have documented the fossil record and protein analysis to support the thesis. The theory of evolution explains these adaptations and relations. *See, e.g.*, CHRIS MCGOWAN, IN THE BEGINNING: A SCIENTIST SHOWS WHY THE CREATIONISTS ARE WRONG (1984).

78. *See, e.g.*, Anthony R. Chase, *Race, Culture, and Contract Law: From the Cottonfield to the Courtroom*, 28 CONN. L. REV. 1, 41 (1995).

79. *See* Katharine T. Bartlett, *Feminist Legal Methods*, 103 HARV. L. REV. 829 (1990).

sumptions of feminist theory to reshape other theories of jurisprudence.[80]

There are a number of ways in which feminist legal scholarship has used the interpenetration of disciplines to lead to fertile or extensible theories. As an example, the social sciences and humanities have had a powerful impact on laws and legal theories. Linguistic philosophy, for instance, has influenced how we speak about crimes. For years, incidents of "domestic violence" went unprosecuted. That was family violence—a personal affair, something not to be intruded into. Now we speak of "battered" spouses—battery, that's a *real* crime, something deserving of prosecution.[81] As another example, research on feminine styles of interpersonal interaction has spurred forms of dispute resolution in law such as mediation and negotiation that are alternatives to the traditional trial and adversarial models.[82] And there are countless other ways in which fertile and deep theories can change and shape legal rules.

This moves to the last defining criterion of cutting edge scholarship. Cutting edge scholarship also tries to strengthen social inquiry. This is a very general characteristic which stems from the other criteria of rationality. Theories which have explanatory and exploratory power will couple that fertility and extensibility with cooperative interdisciplinary work. The epistemological goal of promoting social inquiry is not just cognitive, it is also attitudinal and evaluative.[83] This requires the diminution of strident, ideological partisanship and persuasion, and greater efforts to empathize, to treat others with consideration and justice, and to find grounds and means for rationally living together—all of which would sponsor equality of opportunity, justice, peace, and reasonableness in the larger society.

One significant way in which promising theories strengthen inquiry is by recognizing the implicit values they promote and by assuring that those embedded values also comport with the criteria of

80. *See, e.g.*, Christine Jolls, *The Role of Law and Economics in Feminist Legal Theory*, paper read at AALS Annual Meeting, San Antonio, Texas, Jan. 5, 1996 (using feminist theory to inform the behavioral assumptions of law and economics).

81. *See* Jane C. Murphy, *Lawyering for Social Change: The Power of the Narrative in Domestic Violence Law Reform*, 21 HOFSTRA L. REV. 1243 (1993).

82. *See* Carrie Menkel-Meadow, *Portia in a Different Voice: Speculations on a Women's Lawyering Process*, 1 BERKELEY WOMEN'S L.J. 39 (1985).

83. *See* DONALD T. CAMPBELL, METHODOLOGY AND EPISTEMOLOGY FOR SOCIAL SCIENCE 293-95 (1988) (explaining that an experimenting society will have an ideological commitment to exploratory innovation, accountability, decentralization, and nondogmatized approaches); Levit, *supra* note 28, at 272-74 (suggesting that the criteria of rationality imply certain values, such as openness, non-chauvinism, and a lack of prejudice or prejudgment).

rationality. For example, theories such as feminism and critical race theory, which are premised on a lack of prejudgment, an absence of exclusionary categories, nourish inquiry by their openness. Another way in which more powerful theories address and promote social inquiry is by insisting that both laws and theories accurately depict the human condition.[84]

Cutting edge theories seem to have an eye on social change as well. Work at the exploratory margins not only focuses on new ways in which we can inform society and reshape it, but seems to try to convince people to move in ways that make a better society—that promote either compassion or understanding, preferably both, or perhaps some other valuable social objective. Innovative work often strengthens social inquiry by encouraging the approach of social issues with a legal solution or legal issues with a social solution. Finally, inquiry into inquiry, with no absolute principles or foreordained, unchangeable ends, is the lifeblood of rationality.

B. Using the Criteria of Rationality to Move in New Directions

Throughout this essay, I have used the vehicle of feminist legal theory as an example of cutting edge work, as defined by the criteria of rationality. This should not suggest that feminism alone is at the innovative margins of theory, quite the contrary. Critical race theory is another compelling example of a modern jurisprudential movement that relies strongly on cumulative, comprehensive, and convergent evidence and theories. Culling support for its central proposition of the subordination of racial minorities from history, psychology, sociology, anthropology, and law,[85] critical race theory is developing into a fertile, deep, and extensible theory. Its theorists have explored the many ways in which race infects the criminal justice process;[86] introduced—with essentialist critiques, intersectionality analysis, and reasoning "from the bottom up"—perspectival approaches into analytic

84. *See, e.g.*, Robert L. Hayman, Jr., *Presumptions of Justice: Law, Politics, and the Mentally Retarded Parent*, 103 HARV. L. REV. 1201, 1255 (1990) (urging that the legal presumptions concerning mentally retarded parents take into consideration how the personhood of those individuals is socially constructed).

85. *See, e.g.*, Charles R. Lawrence III, *The Id, the Ego, and Equal Protection: Reckoning with Unconscious Racism*, 39 STAN. L. REV. 317 (1987); Ian F. Haney Lopez, *The Social Construction of Race: Some Observations on Illusion, Fabrication, and Choice*, 29 HARV. C.R.-C.L. L. REV. 1 (1994); Lucie E. White, *Introduction: Thirty Years in America's Cities: Lots of Movement, Not Much Justice*, 30 HARV. C.R.-C.L. L. REV. 293 (1995).

86. *See, e.g.*, Anthony V. Alfieri, *Defending Racial Violence*, 95 COLUM. L. REV. 1301 (1995); *Symposium on Race and Criminal Justice*, 51 WASH. & LEE L. REV. 357 (1994).

jurisprudence;[87] and promoted and theoretically grounded a narrative movement that has fundamentally changed jurisprudential discourse.[88]

One might, in reading this essay, question whether the criteria of rationality are simply being used as a way of gaining some legitimacy for modern critical movements. Does feminism fare well under these criteria because it is cutting edge or because the deck has been stacked in its favor? If any theory of evaluation is principled, it will not be of a particular ideological hue. An example of this is how law and economics, as well as contemporary critical theories, increasingly satisfies the criteria of rationality.

First, law and economics is moving away from a closed theoretical model, with some theorists altering the assumptions of classical microeconomics so that the models more closely mirror reality.[89] With the refinement of its analytical tools, it is becoming an increasingly fertile and extensible theory. Given the development of public choice theory and game theory, law and economics has been applied to various forms of collective action.[90] Its methods permeate wide-ranging areas of law—from antitrust and torts to corporations and criminal law;[91] and its insights are enriching other areas of legal theory and schools of jurisprudence.[92]

Law and economics is also gaining depth as some of its adherents move in ways that promote cooperative social inquiry. Some legal economists are altering the underlying assumptions of the model, de-

87. *See, e.g.*, Kimberle Crenshaw, *Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory and Antiracist Politics*, 1989 U. CHI. LEGAL F. 139; Harris, *supra* note 55; Mari J. Matsuda, *Looking to the Bottom: Critical Legal Studies and Reparations*, 22 HARV. C.R.-C.L. L. REV. 323 (1987).

88. *See, e.g.*, RICHARD DELGADO, THE RODRIGO CHRONICLES: CONVERSATIONS ABOUT AMERICA AND RACE (1995); Alex M. Johnson, Jr., *Defending the Use of Narrative and Giving Content to the Voice of Color: Rejecting the Imposition of Process Theory in Legal Scholarship*, 79 IOWA L. REV. 803 (1994); *Lawyers as Storytellers and Storytellers as Lawyers: An Interdisciplinary Symposium Exploring the Use of Storytelling in the Practice of Law*, 18 VT. L. REV. 565 (1994).

89. *See* Michael S. Jacobs, *An Essay on the Normative Foundations of Antitrust Economics*, 74 N.C. L. REV. 219, 224-25 (1995) (explaining how post-Chicago law and economists acknowledge market imperfections and urge regulators to consider opportunistic behavior regarding market failures in determining whether to intervene).

90. *See, e.g.*, Ayres, *supra* note 43; Linda S. Beres, *Games Civil Contemnors Play*, 18 HARV. J. L. & PUB. POL'Y 795 (1995); Farber & Frickey, *supra* note 43; Douglas R. Williams, *Valuing Natural Environments: Compensation, Market Norms, and the Idea of Public Goods*, 27 CONN. L. REV. 365 (1995).

91. *See* RICHARD A. POSNER, ECONOMIC ANALYSIS OF LAW 20-22 (3d ed. 1986).

92. *See, e.g.*, Carol M. Rose, *Trust in the Mirror of Betrayal*, 75 B.U. L. REV. 531 (1995) (using economic literature about strategic behavior to explore the formation of seemingly ineffable qualities such as trust and cooperation).

pending on its contextual application. For instance, in the area of collective bargaining, the strategic behavior identified by Professor Kenneth Dau-Schmidt does not reflect traditional law and economics assumptions of cost-free, rational bargaining or a universal commitment to wealth maximization.[93] In short, law and economics scholars are using converging, contextual data to reconstruct their economic models to comport with rationality.[94]

Another test of a theory is its predictive validity. How well do the criteria of rationality predict what will be on the cutting edge of legal theory in a few years or even decades? Take, as an example, chaos theory. Very generally, chaos theory is the idea that in non-linear systems, there are patterns of predictability in otherwise seemingly random events.[95] Only recently have theorists recognized the application of chaos and complexity theory in the non-linear system that is law. Yet, as Andrew Hayes notes, "jurisprudence, both conventional and other, has responded to chaos theory with a collective 'so what?'"[96]

While not validated by the traditional measures of theory popularity, chaos theory possesses the possibilities to invigorate both doctrinal analysis and jurisprudence. Although based on models from mathematics and the hard sciences, chaos theory is increasingly finding a home in a variety of other disciplines.[97] Recently, chaos theory has begun to offer fertile contributions to legal theory. Professor Lawrence Cunningham argues that performance of financial markets over time should not be mapped as simply random walks, but instead may exhibit hidden patterns of order and predictability that "can ac-

93. *See* Kenneth G. Dau-Schmidt, *A Bargaining Analysis of American Labor Law and the Search for Bargaining Equity and Industrial Peace*, 91 MICH. L. REV. 419, 420-23, 512-13 (1992).

94. *See, e.g.*, Robert C. Ellickson, *Bringing Culture and Human Frailty to Rational Actors: A Critique of Classical Law and Economics*, 65 CHI.-KENT L. REV. 23 (1989). Of course, it may be argued that law and economics offers a weak example of how theory-building *should* proceed, since some empirical examinations of its underlying assumptions appear to be generated in an effort to protect the assumptions. *See* Robert C. Downs, *Law and Economics: Nexus of Science and Belief*, 27 PAC. L.J. 1, 26-27, 35 (1995).

95. *See generally* JAMES GLEICK, CHAOS: MAKING A NEW SCIENCE (1987); M. MITCHELL WALDROP, COMPLEXITY: THE EMERGING SCIENCE AT THE EDGE OF ORDER AND CHAOS (1992).

96. Andrew W. Hayes, *An Introduction to Chaos and Law*, 60 UMKC L. REV. 751, 751 (1992).

97. *See, e.g.*, WILLIAM BERGQUIST, THE POSTMODERN ORGANIZATION: MASTERING THE ART OF IRREVERSIBLE CHANGE (1993); SALLY J. GOERNER, CHAOS AND THE EVOLVING ECOLOGICAL UNIVERSE (1994); DRAGAN MILOVANOVIC, POSTMODERN LAW AND DISORDER: PSYCHOANALYTIC SEMIOTICS, CHAOS AND JURIDIC EXEGESIS (1992); EDGAR E. PETERS, CHAOS AND ORDER IN THE CAPITAL MARKETS: A NEW VIEW OF CYCLES, PRICES, AND MARKET VOLATILITY (1991); IAN STEWART, DOES GOD PLAY DICE? THE MATHEMATICS OF CHAOS (1989); L. Douglas Kiel, *Nonequilibrium Theory and Its Implications for Public Administration*, 49 PUB. ADMIN. REV. 544 (1989).

count for market crashes" and provide better rationales "for such basic corporate and securities law doctrines as mandatory disclosure rules and mandatory fiduciary obligation[s]."[98] Other legal theorists have tapped the complexity notion of a "butterfly effect" (minor changes in initial conditions can have enormous outcome consequences) to suggest new areas of inquiry in litigation:

> Applying chaos theory's non-linear approach to law, one might say that just as a butterfly's wing flutter in China may produce a hurricane in Florida, so, too, a defendant's inappropriate smile in the course of a criminal trial might generate the cognitive armature around which jurors weave a story of guilt.[99]

Although it is unfleshed at present, scholars can see that there might be a fractal dimension in law.

Chaos theory is a good example of the argument that we should divorce theory popularity—chaos theory has not permeated legal inquiry—from theory significance. Chaos theory is multidisciplinary in its origins and applications, examining changes over time and space and systems, and bringing to the study of change in a localized system diverse data from other fields. It is in line with other theories which move away from unicausal explanations and from predictability or regularity as a main sign of reason; it unites the particular and the general. By following changes beyond their usual disciplinary patterns, chaos theory and complexity theory may someday tell us a great deal about law and about life. In short, chaos theory is an example of a theory presently lacking on the popularity scale, but offering a promising avenue of potentially significant and powerful theory.

III. ALTERNATIVE EXPLANATIONS

Any theory should be falsifiable, and must be tested for validity with the consideration of alternative, competing hypotheses. It may be suggested that what entrenched feminist legal theory, or indeed, all critical theories, was not just the cumulative presence of these criteria of scientific persuasiveness. Demographics may provide an explanation for what the academy perceives as compelling scholarship. One of the unmistakable messages of legal realism was that the social and

98. Lawrence A. Cunningham, *From Random Walks to Chaotic Crashes: The Linear Genealogy of the Efficient Capital Market Hypothesis*, 62 GEO. WASH. L. REV. 546, 551 (1994).

99. Richard K. Sherwin, *The Narrative Construction of Legal Reality*, 18 VT. L. REV. 681, 695 n.57 (1994); *see also* Anthony D'Amato, *Do We Owe a Duty to Future Generations to Preserve the Global Environment?*, 84 AM. J. INT'L L. 190, 192-93 (1990).

political positions of scholars may play a role in determining what theories certain groups of people find acceptable and interesting.

For instance, one might argue that critical theories were both prompted and sustained by the wave of women and racial minorities graduating from law school in the 1970s. These nontraditional lawyers became disenchanted by institutions and involved in social action projects.[100] In increasing numbers, they entered the legal academy,[101] thus providing a fertile pool of scholars receptive to the social messages of critical theory. And perhaps, unlike feminist theory and critical race theory, which spoke to legions of oppressed women and people of color, chaos theorists do not have the same receptive audience of scientifically trained, prospective protegees, waiting for an epiphany of theory.

This explanation, however, again confuses the popularity of a theory with its theoretical power. A theorist applying the criteria of rationality would not dispute that the social circumstances of theorists might influence their intellectual directions. A central thesis of this essay, however, is that popularity is not one with validity.[102] What gave the critical movements their power and credence was their substantive base of support.

It is certainly true that natural law theories, creationism, capitalism, Marxism, feminism, Einsteinian relativity theory, and all other theories have been influenced greatly by changing interests and needs of human, technological, and social forces. But, especially over time, the intellectually grounded and promising elements in our theories can be distinguished from the narrower and ideological elements eschewing inquiry criteria in favor of pure personal experience or group identity. Rational studies of inquiry necessarily cross boundaries—political, ideological, racial, departmental, and institutional. Our abilities to rationally evaluate flurries, forays, or fads of thought in any area expand as we bring together historical, cross-cultural, and comparative studies over the wide range of human interactions with physical, biological, social, and psychological data and theories.

100. *See* Elizabeth M. Schneider, *The Dialectic of Rights and Politics: Perspectives from the Women's Movement*, 61 N.Y.U. L. REV. 589 (1986).

101. *See* Carrie Menkel-Meadow, *Feminist Legal Theory, Critical Legal Studies, and Legal Education or "The Fem-Crits Go to Law School"*, 38 J. LEGAL EDUC. 61 (1988).

102. The geocentric theory of the universe held sway for centuries. Hitler was adored and followed by entire nations.

IV. CONCLUSION

This essay has attempted to raise questions about the traditional criteria of merit.[103] It argues for greater attention to the foundational qualities of theory-building, in the hopes of promoting research and inquiry in promising directions. It is vitally important not only to identify those conditions and ideas that improve legal theory, but also to ascertain the criteria and mechanisms of improvement. Understanding why theories are strong and full of potential will encourage further contributions to the understanding of legal theory and legal practice. This should assist in building better jurisprudential thinking.

This essay argues for more universal standards that place a premium on innovation, rationality, and social consciousness. The standards of sound and rounded reasoning, of adequate evidence and intellectual procedure, provide touchstones for evaluating theoretical merit. These criteria of rationality hold promise to create an arena of democracy for scholarship as well as to encourage innovation and spur productive inquiry.

103. For a critique of the concept of meritocracy, see ROBERT L. HAYMAN, JR., SMART PEOPLE: THE MYTHS OF BIOLOGY, MERIT, AND EQUALITY UNDER LAW (New York Univ. Press forthcoming 1997).